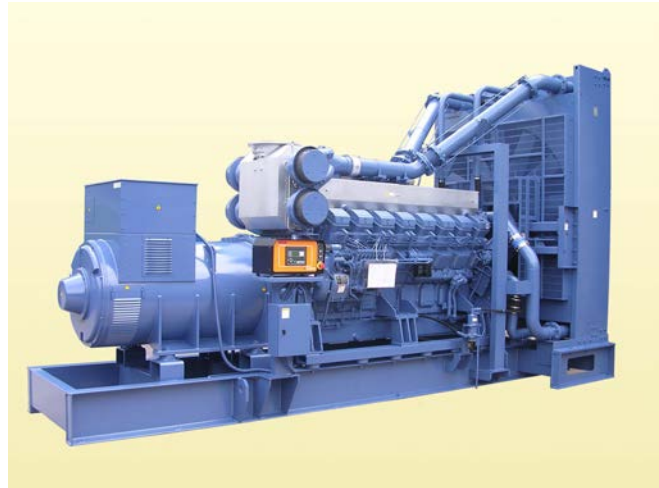


MGS2500HV

60Hz/3.3kV

POWER RATING (0.8 P.F.)
 STAND-BY 2000 kW

MODEL CODE
 63S-T82M



MGS2500HV with typical options

CONDITIONS & DEFINITIONS

Stand-by: Code: S

Applicable for supplying emergency power at varying load in the event of normal utility power interruption.
 Fuel stop power in accordance with ISO15550, ISO3046/1, JISB8002-1, DIN6271 and BS5514.

Conditions:

Engine ratings are based on SAE J1349 standard conditions and also apply at ISO3046/1, DIN6271 & BS5514 standard conditions.

Fuel rates: based on ASTM D975, BS2869 and on fuel oil of 35° API (16°C or 60° F) gravity having a LHV of 42,780 kJ/kg (18,390 Btu/lb.) when used at 29°C (85° F) and weighing 838.9 g/liter (7.001 lbs./U.S. gal.).

DIMENSION (Reference Data)

			STAND-BY 2000 kW
Overall dimensions	L : Length	mm	6000
	W : Width	mm	2395
	H : Height	mm	3460
Total Weight (Dry)		kg	14800
Total Weight (Wet)		kg	15500

MGS SERIES DIESEL ENGINE: MITSUBISHI S16R-PTAA2

V-16, 4 stroke-cycle water-cooled, turbocharged and air-to-air cooling system

ENGINE SPECIFICATIONS & TECHNICAL DATA

Bore	mm	170
Stroke	mm	180
Displacement	L	65.4
Piston speed	m/sec.	10.8
Compression ratio		14
Lubricating oil capacity	L	230
Coolant capacity without radiator	L	170
Coolant pump external resistance	m water	5.0
Coolant pump flow rate	L/min	1850
Cooling fan airflow rate	m ³ /min	2500
Cooling fan air flow restriction	kPa	0.1
Ambient air temperature	°C	40
Allowable exhaust back pressure	kPa	6.0
Exhaust flange size (internal diameter)	mm	350

ENGINE OPERATING DATA

		STAND-BY 2000 kW
Gross Engine Power*	kWm	2105
Brake mean effective pressure	MPa	2.2
Regenerative absorption	kW	192
Noise Level at 1 m (excluding: intake, exhaust & fan)	dB(A)	114
Fuel consumption load 100%*	L/hr.	531
Fuel consumption load 75%*	L/hr.	397
Combustion air inlet flow rate	m ³ /min	182
Exhaust gas flow rate	m ³ /min	480
Exhaust gas temperature	°C	530
Heat rejection to coolant	kW	688
Heat rejection to exhaust	kW	1690
Heat rejection to atmosphere from engine	kW	159
Heat rejection to atmosphere from generator	kW	75

* WITH FAN basis.

Deration for engine

Note: Please consult with your nearest Mitsubishi MGS dealer

ENGINE STANDARD EQUIPMENT

Aftercooler
 Turbocharger filter
 Structure steel base
 Crankcase breather
 Charging alternator
 Lubricating oil cooler
 Fuel filters, full flow paper element
 Fuel transfer pump, gear driven, plunger type
 Electronic type governor
 Jacket water heater
 Jacket water pump, gear driven
 Lubricating oil filter, full flow paper element
 Lubricating oil pump, gear driven
 Exhaust dry manifold
 Radiator, blower fan, fan drive
 Manual shutoff
 24V DC electric starting motor

MGS SERIES 7310 GENERATOR CONTROL PANEL

Type & Design

MGS standard 7310 programmable microprocessor control-automatic start/stop panel, generator breaker control, indicating the operational status and fault conditions; automatically shutting down the engine and indicating the engine failure by means of LCD display and LEDs on the front panel.

Controls & Monitoring

- ◆ Mode selection & start engine button with interlock key switch system
- ◆ Menu navigation button
- ◆ LCD display for: AC amperage-each phase and earth current, AC voltage-each phase and neutral, Frequency Hz, Operation hours run, Lub. Oil pressure, Cooling water temperature, Generator Load kW/kVA/kVar, Generator Load kWh/kVAh/kVarh
- ◆ Operation status LED indicators
- ◆ CB control buttons
- ◆ Mute/Lamp test button
- ◆ Voltage adjuster
- ◆ Speed adjuster
- ◆ Emergency stop pushbutton
- ◆ Provided 5 outputs for status as standard equipment (Programmable 8 outputs available as option)

Safety Shutdown Protection and LED Indicators

High engine temperature, Low oil pressure, Fail to start, Generator Over Speed/Frequency, Generator Under Speed/Frequency
Generator High Voltage, Generator Low Voltage, Oil pressure sender circuit, Loss of Speed signal, Emergency stop,

Mounting

Fabricated cubicle mounted on individual bracket with anti-vibration isolator

Electrical Design

In accordance with BS EN 60950 Low Voltage Directive, BS EN 61006-2 and 61006-4 EMC Directive. The optional interface can provide real time diagnostic facilities.

Generator Control Panel Description

- | | |
|---|---|
| <ul style="list-style-type: none"> ■ 3 position operation mode control key switch (ACTIVE, PANEL LOCK, STOP/RESET) ■ Manual button ■ Auto button ■ CB open button (Manual only) ■ CB close button (Manual only) ■ Start engine button (Manual only) ■ LCD display accessed by scroll pushbutton <ul style="list-style-type: none"> Generator volts L1-N, L2-N, L3-N Generator volts L1-L2, L2-L3, L3-L1 Generator amps L1, L2, L3 Generator Earth Current Generator Frequency Hz Engine speed RPM Engine oil pressure (PSI & Bar) ■ Visual indicators on LCD display <ul style="list-style-type: none"> Shutdown alarm Warning alarm High coolant temperature Low oil pressure Charge fail Over-speed Under-speed Electrical trip Fail to stop ■ Visual indication alarm and automatically shutdown <ul style="list-style-type: none"> High engine temperature Low oil pressure Fail to start Over-speed High voltage Low voltage ■ Operation status indicated by LED <ul style="list-style-type: none"> Remote start present Generator ready ■ Pre-Programmed Starting Unit <ul style="list-style-type: none"> Automatic start/stop sequence timing and delay systems configured via MS-Windows based software. | <ul style="list-style-type: none"> ■ Stop/Reset button (Manual only) ■ Mute/Lamp test button (Manual only) ■ Voltage adjusting trimmer ■ Speed adjusting trimmer ■ Emergency stop pushbutton Engine cooling water temperature (°C & °F) Battery volts Engine hours run Generator Load kW, kVA, kVar Generator Load kWh, kVAh, kVarh Power Factor Generator Phase Sequence Generator high current Over voltage (AC) Under voltage (AC) Over voltage (DC) Under voltage (DC) Auxiliary indication Auxiliary alarm (warning or shutdown) Common alarm Over frequency Under frequency Over frequency Under frequency Oil pressure sender open circuit Loss of speed signal High Crankcase internal pressure (MGS-C Continuous only) Emergency Stop Lubrication oil filter clogged Electrical trip |
|---|---|

MITSUBISHI MGS SERIES

DIESEL GENERATOR SET MGS2500HV



MGS SERIES AC GENERATOR MODEL: MG-KT82M

Type & Design

MGS original design, single bearing, 4 pole, screen protected, selfexciting, self regulating and brushless with fully connected damper windings, salient pole rotors, A.C. exciter and rotating rectifier unit. Direct coupled to engine and regreaseable bearing, direct drive centrifugal blower.

With Space heater.

Enclosure: Drip-proof IP22

Terminal box: Totally enclosed IP44

Winding System

Standard 6 wire winding is provided. All windings are formed wound and impregnated in vacuum pressure with a special epoxy resin.

Overspeed capability: 125% for 2 minutes

Insulation: Class 'H' of IEC

Temperature rise: 150°C (Stand-by)

Temperature rise: 125°C (Prime)

Voltage Regulator

Fully sealed, 3 phase RMS sensing AVR with built-in protection against sustained over-excitation. This de-excites the generator after a minimum of 5 seconds.

Voltage regulation: Less than +/- 0.5% from no load to full load at any power factor between 0.8 lagging and 1.0 allowing for a 4% engine speed variation

Voltage adjustment: +/- 6%

Wave form: Less than 5% deviation

Permanent Magnet Generator (PMG)

Electrically isolated from the main alternator stator windings powers AVR - sustaining approx. 250% of short circuit current at the AC generator output terminals for not more than 10 seconds by means of excitation voltage via AVR

Sensors

Temperature sensors are provided as follows.

Stator winding, 2 per each phase, PT100

Bearing, PT100

Electrical Design

In accordance with BS5000 Part 3, VDE0530, UTE51100, NEMA MG1-22, CEMA, IEC34-1, CSA22.2, AS1359 and JEC2100.

Telephone Influence Factor (TIF): Less than 50

Telephone Harmonic factor (THF): Less than 2.5%

Radio interference: Suppression is in line with the provision of VDE Class G and N

Gen Set Option Features

- | | |
|---|---|
| <ul style="list-style-type: none">■ ENGINE<ul style="list-style-type: none">Air Cleaner, paper element dry typeBattery KitBattery ChargerAnchor Bolts■ FUEL<ul style="list-style-type: none">Fuel Day Service Tank■ LUBRICATION<ul style="list-style-type: none">Lub. Oil Priming Pump■ EXHAUST<ul style="list-style-type: none">Exhaust SilencerExhaust Flexible Pipe | <ul style="list-style-type: none">■ GENERATOR<ul style="list-style-type: none">Power Factor Regulator■ CONTROL PANEL<ul style="list-style-type: none">Diesel Generator Integrated Communication Synthesizer (DGICS-MII)Auxiliary Control PanelRemote Monitor InterfaceTemperature Meter for Winding & Bearing■ SWITCHGEAR<ul style="list-style-type: none">Circuit Breaker VCBReverse Power Relay |
|---|---|



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Mitsubishi Heavy Industries, Ltd. serves for the customers with improved products continually. Therefore specification and some materials will be changed without notice.
The International System of units (SI) is used in this publication.

